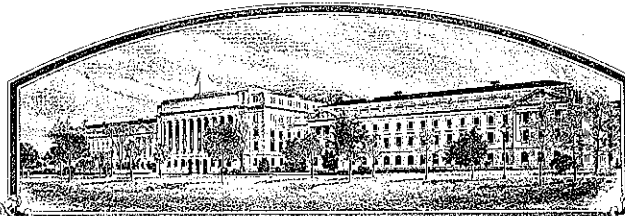


No.



9500153

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Delta and Pine Land Company

Whereas, THERE HAS BEEN PRESENTED TO THE

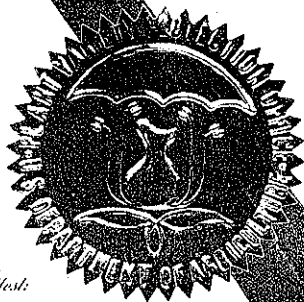
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'DP 3681'



Attest:

Marska A. Starn

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of July in the year of our Lord one thousand nine hundred and ninety-six.

Jan F. Whitman
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.	3. VARIETY NAME
DELTA AND PINE LAND COMPANY		DPX 3681	DP 3681
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)		5. PHONE (include area code)	FOR OFFICIAL USE ONLY PVPO NUMBER 9500153 F I L I N G Date MAY 2, 1995 Time <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M. F E E S Filing and Examination Fee: \$ 2450.00 Date MAY 2, 1995 R E C E I V E D Certificate Fee: \$ 300.00 Date JUNE 17, 1996
100 Main Street Scott, MS 38772			
6. GENUS AND SPECIES NAME	7. FAMILY NAME (Botanical)		
Glycine max	Leguminosae		
8. CROP KIND NAME (Common Name)	9. DATE OF DETERMINATION		
Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)			
Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION		
Delaware			
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS			
Dr. Harry Collins P.O. Box 157 Scott, MS 38772			
(601) 742-3351 PHONE (include area code):			

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☒ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____

g. ☒ Filing and Examination Fee. (2,325) - made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)

☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act Give date _____) ☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates) ☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

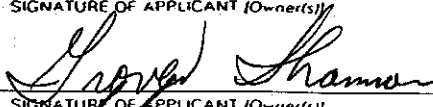
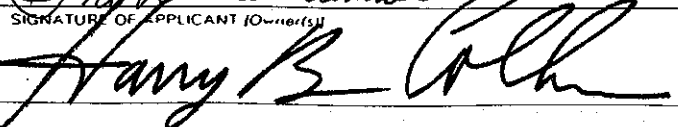
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE
	MIDSOUTH SOYBEAN BREEDER	4/12/95
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE
	VICE PRESIDENT DIRETOR OF RESEARCH	4-26-95

EXHIBIT A**DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3681****ORIGIN AND BREEDING HISTORY**

- | | | | |
|--------|-----------|---|--|
| | 1987 | - | Cross #87028 - Coker 6727 X DP 415 made |
| | 1988 | - | F ₁ advanced to F ₂ in winter nursery. |
| | 1989 | - | F ₂ advanced to F ₃ by bulk pod method. |
| Winter | 1989-1990 | - | F ₃ advanced to F ₄ in winter nursery by bulk pod method. |
| Summer | 1990 | - | F ₄ plants were harvested and threshed individually. |
| | 1991 | - | F ₅ plant rows planted and row number 91-12455 was composited selected and found to be stable for characteristics listed in exhibit "C" of this application. No variants were observed or known to occur. |
| | 1992 | - | Selection 91-12455 was grown in group VI preliminary yield tests and advanced for further testing in 1993. |
| | 1993 | - | Selection 91-12455 was assigned key #4747 and yield tested at eleven locations in the midsouth and southeast. Increase was begun and all offtypes, if any, were carefully removed. |
| | 1994 | - | Tested again at eleven Delta and Pine Land Company locations and increased further. |
| | 1995 | - | Tested as DPX 3681 in state experiment station tests and D&PL tests increased further and released as DP 3681. |

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EXHIBIT B**DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3681****NOVELTY STATEMENT**

To our knowledge, DP 3681 most resembles DP 3682. Differences include, but are not restricted to the following:

- a) DP 3681 is resistant to frogeye leaf spot and DP 3682 is susceptible.
- b) DP 3681 is very resistant to stem canker, whereas DP 3682 is moderately susceptible.
- c) DP 3681 averages 2 grams per 100/seed larger than DP 3682.
- d) DP 3681 averages 2% higher protein and 1% lower oil than DP 3682
- e) DP 3681 is resistant to soybean mosaic virus whereas DP 3682 is susceptible

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OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) DELTA AND PINE LAND COMPANY	TEMPORARY DESIGNATION DPX 3681	VARIETY NAME DP 3681
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 100 Main Street Scott, MS 38772		FOR OFFICIAL USE ONLY PVPO NUMBER 9500153

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 - Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 - Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 - Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 - Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 - Yellow 2 - Green 3 - Brown 4 - Black 5 - Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 - Dull ('Consoy 79'; 'Braxton') 2 - Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 - Buff 2 - Yellow 3 - Brown 4 - Gray 5 - Imperfect Black 6 - Black 7 - Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 - Yellow 2 - Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 - Low 2 - High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 - Type A (SP1^a) 2 - Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 - Green only ('Evans'; 'Davis') 2 - Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 - Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 - Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 - Lanceolate 2 - Oval 3 - Ovate 4 - Other (Specify) Ovate to Lanceolate

11. LEAFLET SIZE:

☒ 21 - Small ('Amsoy 71'; 'AS312')
3 - Large ('Crawford'; 'Tracy')

2 - Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☒ 31 - Light Green ('Weber'; 'York')
3 - Dark Green ('Gnome'; 'Tracy')

2 - Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☒ 2

1 - White

2 - Purple

3 - White with purple throat

★ 14. POD COLOR:

☒ 1

1 - Tan

2 - Brown

3 - Black

★ 15. PLANT PUBESCENCE COLOR:

☒ 1

1 - Gray

2 - Brown (Tawny)

16. PLANT TYPES:

☒ 21 - Slender ('Essex'; 'Amsoy 71')
3 - Bushy ('Gnome'; 'Govan')

2 - Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☒ 1

1 - Determinate ('Gnome'; 'Braxton')

2 - Semi-Determinate ('Will')

3 - Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☒ 091 - 000
9 - VI2 - 00
10 - VII3 - 0
11 - VIII4 - I
12 - IX5 - II
13 - X

6 - III

7 - IV

8 - V

★ 19. DISEASE REACTION: (Enter 0 - Not Tested; 1 - Susceptible; 2 - Resistant)

BACTERIAL DISEASES:

★ ☒ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)★ ☒ 0Bacterial Blight (*Pseudomonas glycines*)★ ☒ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★ ☒ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojae*)★ ☐

Race 1

☐ Race 2☐ Race 3☐ Race 4☐ Race 5☒ Other (Specify)

RACES UNKNOWN

☒ 1Target Spot (*Corynespora cassicola*)☒ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☒ 0Powdery Mildew (*Microspheera diffusa*)★ ☒ 0Brown Stem Rot (*Cephalosporium gregatum*)☒ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

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19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 0 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 0 Race 7
- ☐ 0 Race 8 ☐ 0 Race 9 ☐ 0 Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 2 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 2 Race 3 ☐ 0 Race 4 ☐ 1 Other (Specify) Race 14
- ☐ 0 Lance Nematode (*Hoplolaimus Colonus*)
- ★ ☐ 2 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 2 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 2 Iron Chlorosis on Calcareous Soil
- ☐ 1 Other (Specify) Sensitive to high chloride soils

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 2 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	DP 3682	Seed Coat Luster	DP 3682
Leaf Shape	DP 415	Seed Size	DP 415
Leaf Color	DP 415	Seed Shape	DP 415
Leaf Size	DP 415	Seedling Pigmentation	DP 3682

21. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
DP 3681 Submitted	146	1.8	90			38.3	16.5	15	
DP 3682 Name of Similar Variety	147	1.9	84			35.9	17.8	13	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.J. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

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EXHIBIT D**DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3681****ADDITIONAL DESCRIPTION OF VARIETY**

DPX 3681 is an F₄ selection composited in the F₅ generation from the cross DP 415 X Coker 6727. It is a potential replacement for DP 3682 with better yield potential, higher protein content, as well as stem canker and frogeye leaf spot resistance.

DPX 3681 is a late group VI maturing 1 day earlier than DP 3682 with dark green foliage, purple flowers, gray pubescence and tan pods at maturity. Height and lodging are similar to DP 3682. Seeds are shiny yellow with imperfect black hila. It is resistant to soybean cyst nematode (races 1 and 3), stem canker, frogeye leaf spot, soybean mosaic virus, as well as common and peanut root knot nematode. It is sensitive to high chloride soils.

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EXHIBIT E**DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3681****STATEMENT OF APPLICANT'S OWNERSHIP**

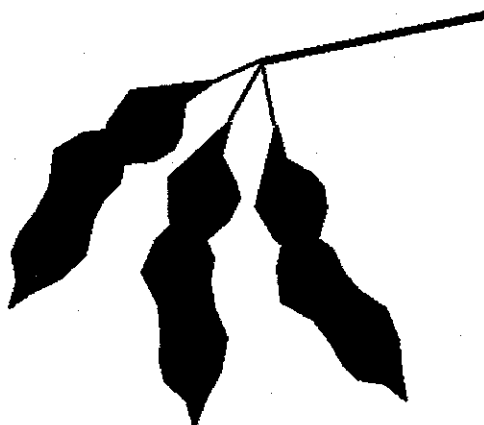
DP 3681 was developed by Grover Shannon, Ph. D, Harry Collins, Ph.D. and Tom Wofford, Ph.D. Delta and Pine Land Company Plant Breeders. By agreement between employee and Delta and Pine Land Company, all rights to any invention, discovery, or development made by an employee are assigned to the company. No rights to such an invention, development, or discovery are retained by the employee.

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SOYBEAN PRODUCT NOMINATION FORM

Suggested Nominee Number: DPX 3681
Experimental Designations: 91-12455 (4747)
Submitted by: Grover Shannon and Tom Wofford
Date Submitted: January 1, 1995
Parentage: DP 415 X Coker 6727



Data Collected from 22 Replicated Yield Tests.

I. Plant & Seed Characteristics:

Flower Color: Purple
Pubescence Color: Grey
Hilum Color: Imperfect Black
Pod Wall Color: Tan
Seed Coat Luster: Shiny
Leaf Shape: Ovate
Plant Type: Determinate
Peroxidase Activity:



Variety Description

DPX 3681

DPX 3681 is an F₄ selection composited in the F₅ generation from the cross DP 415 X Coker 6727. It is a potential replacement for DP 3682 with better yield potential, and stem canker and frogeye leaf spot resistance.

DPX 3681 is a late group VI maturing 1 day earlier than DP 3682 with dark green foliage, purple flowers, grey pubescence and tan pods at maturity. Height and lodging are similar to DP 3682. Seeds are shiny yellow with imperfect black hila. It is resistant to soybean cyst nematode (races 1 and 3), stem canker, frogeye leaf spot as well as common and peanut root knot nematode.

KEY FEATURES

- Late group VI maturity
- Excellent yield potential
- Resistant to races 1 and 3 cyst nematode
- Resistant to common root knot nematode
- Moderately resistant to peanut root knot nematode
- Resistant to frogeye leaf spot
- Resistant to stem canker
- Attractive plant type

CHARACTERISTICS

Maturity	Late group VI
Flower Color	Purple
Pubescence Color	Grey
Hilum Color	Imperfect Black
Plant Height	Medium
Lodging Resistance	Excellent
Shatter Resistance	Excellent
Seed Size	3100 seed/lb
Stem Canker	Resistant
Phytophthora Root Rot	Field Tolerant
Cyst Nematode	Resistant
Common Root Knot Nematode	Resistant
Peanut Root Knot Nematode	Moderately Resistant
Red Crown Rot	Unknown
Aerial Blight	Moderately Resistant
Frogeye Leaf Spot	Resistant
Sudden Death Syndrome	Unknown
High Chloride	Sensitive
Soybean Mosaic Virus	Resistant

II. Agronomic Characteristics

Line	Mat.	Plant Height	Ldg.	Shat.	Seeds/Lb.	% Pro.	% Oil
DPX 3681	-1	35	1.8	Exc.	3200	38.3	16.5
DP 3682	0	33	1.9	Exc.	3600	35.9	17.8
H 6686	-3	33	1.9	Exc.	2900	37.0	18.1
DP 726	-1	37	2.7	Exc.	3800	35.2	17.3

III. Yield Data:

1993-94 Yield & Agronomic Data Summary

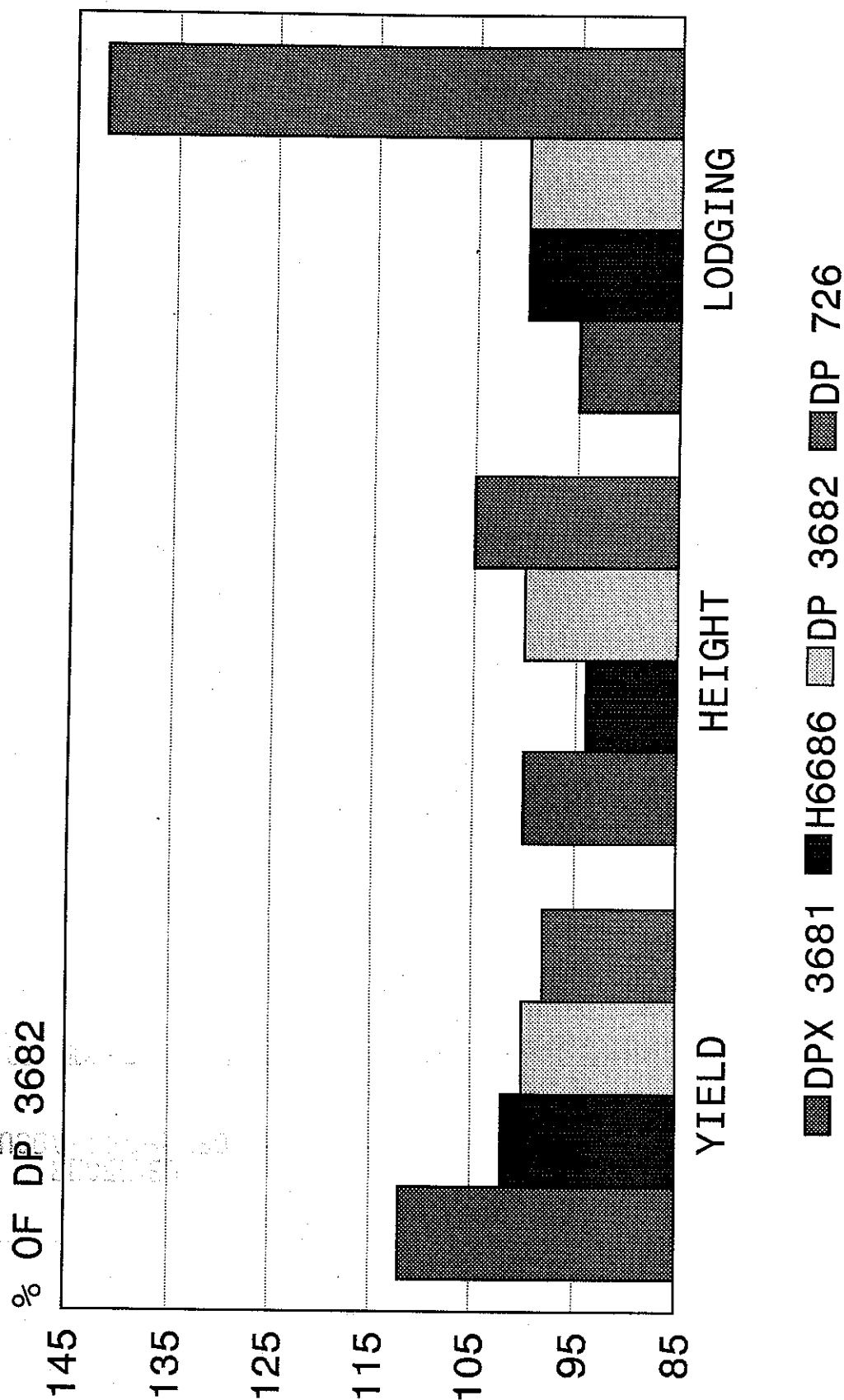
Line	Yield	% Yield	Mat.	Hgt.	Ldg.
DPX 3681	52.9	112	-1	35	1.8
H 6686	48.6	102	-3	33	1.9
DP 3682	47.5	100	0	35	1.9
YOUNG	47.4	100	-5	36	1.9
DP 726	46.7	98	+2	37	2.7
# TESTS	22	22	9	16	16

1994 Yield & Agronomic Data Summary

Line	Yield	% Yield	Mat.	Hgt.	Ldg.
DPX 3681	51.3	118	0	31	1.6
H 6686	46.5	107	-2	32	1.8
YOUNG	44.9	103	-2	34	1.6
DP 3682	43.5	100	0	31	1.8
DP 726	42.2	97	+2	36	2.7
# TESTS	11	11	5	9	7

DPX 3681

1993-94 YIELD & AGRONOMIC SUMMARY



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1993 Yield & Agronomic Data Summary

Line	Yield	% Yield	Mat.	Hgt.	Ldg.
DPX 3681	54.4	108	-2	37	1.9
DP 3682	51.4	102	0	36	2.0
DP 726	50.5	100	+1	38	2.6
H 6686	50.7	100	-5	33	2.0
YOUNG	49.8	99	-8	37	2.2
# TESTS	11	11	4	7	9

Yield Summary in Bu/A

By Region: 1993-94

LINE	MIDSOUTH		SOUTHEAST		OVERALL MEAN	
	YLD	% YLD	YLD	% YLD	YLD	% YLD
DP 3681	52.6	109	53.2	116	52.9	112
H 6686	47.8	100	49.8	110	48.6	103
YOUNG	46.8	100	47.9	106	47.4	100
DP 3682	47.8	99	47.1	100	47.4	100
DP 726	45.6	95	48.0	104	46.7	98
# TESTS	12	12	10	10	22	22

By States: 1993-94

LINE	TN	AR	MS	LA	NC	SC	VA	GA	MEAN
DP 3681		49.0	54.4	54.1	55.6	43.5		56.1	52.9
H 6686		48.7	41.5	52.6	54.0	38.3		51.2	48.6
DP 3682		47.9	49.1	46.4	48.2	38.4		50.2	47.4
YOUNG		49.4	49.0	42.0	49.7	37.4		51.4	47.4
DP 726		45.6	48.9	42.9	48.7	39.1		51.6	46.7
# TESTS		4	4	4	4	2		4	22

By Soil Type Planting and Disease Situation: 1993-94

Line	Loam	Clay	Early Planted	SCN	Stem Canker	Root Knot	SDS	Aerial Blight
DPX 3681	58.9	52.4	51.3	48.6	66.8	49.6		
H 6686	55.9	48.9	45.6	44.0	65.8	37.9		
DP 3682	52.9	47.4	45.0	45.0	47.1	43.3		
DP 726	53.4	44.2	46.7	43.5	40.0	42.6		
YOUNG	54.0	43.8	48.6	47.1	33.6	40.7		
# TESTS	8	6	2	3	1	2		

1994 Head to Head Comparisons

DPX 3681 vs	Total Comp.	Won by- Bu/A	# Wins	% Wins
DP 3682	22	5.5	20	91
YOUNG	22	5.5	18	82
DP 726	22	6.2	21	95
H 6686	22	4.3	16	73

YIELD IN BU/A
BY TESTS AND LOCATIONS

1994 - 465M

Line	MIDSOUTH						Mid- Sth Mean
	AR CD	AR DM	MS SL	MS SC	LA TL	LA MG	
DP 3681	52.8	41.0	54.3	49.0	37.2	66.8	50.2
P 9692	51.2	40.5	54.2	40.9	38.7	67.4	48.7
A 6961	50.6	42.1	48.6	42.3	39.6	68.9	48.9
H 6686	53.2	35.2	39.4	31.4	33.6	65.8	43.1
YOUNG	50.9	41.4	45.6	44.3	39.0	33.6	42.5
DP 3682	48.5	35.7	43.3	47.4	28.4	47.1	41.7
DP 726	45.9	37.6	45.4	43.9	23.8	40.0	39.4
C.V.	8.4	12.3	10.6	9.2	10.0	7.1	
LSD .05	5.6	9.7	8.2	6.2	5.8	5.9	

	S O U T H E A S T						
Line	NC CL	NC SF	SC OS	GA MT	GA PL	Sth- East Mean	Over All Mean
DPX 3681	56.6	50.7	36.9	46.7	72.7	52.7	51.3
P 9692	55.5	55.6	36.0	46.4	74.7	53.6	51.0
A 6961	49.4	48.5	38.4	49.7	70.7	51.0	49.9
H 6686	49.2	57.1	32.2	45.6	68.3	50.5	46.5
YOUNG	54.3	41.2	33.3	46.2	63.7	47.7	44.9
DP 3682	51.3	41.3	32.9	37.7	64.7	45.6	43.5
DP 726	47.6	43.0	34.5	48.1	62.7	47.2	42.2
C.V.	6.5	5.0	7.8	14.4	7.1		
LSD .05	5.9	4.6	4.4	13.7	7.9		

1993 - 365M

	MIDSOUTH					
Line	AR CD	AR DM	MS SL	MS SC	LA TL	LA MG
DP 3681	54.0	48.1	61.5	52.8	48.6	63.6
DP 3682	59.3	48.1	54.2	51.4	48.3	62.1
DP 726	53.5	45.4	55.8	50.0	44.6	63.0
H 6686	58.7	47.7	51.8	43.4	42.6	68.2
YOUNG	59.5	45.6	55.7	50.2	41.3	54.2
A 6785	59.5	47.8	57.9	41.0	40.0	54.6
C.V.	6.4	5.6	13.3	8.1	8.5	7.4
LSD .05	6.1	4.3	11.6	6.4	6.1	7.3

Line	Mid-Sth Mean	S O U T H E A S T					Sth-East Mean	Over All Mean
		NC CL	NC SF	SC OS	GA PL	GA VD		
DPX 3681	54.8	47.5	67.5	50.0	55.7	49.2	54.0	54.4
DP 3682	53.9	44.0	56.2	43.8	55.8	42.7	48.5	51.4
H 6686	52.0	50.4	59.4	44.3	59.3	31.4	49.0	50.7
DP 726	52.0	37.3	66.8	43.6	53.9	41.8	48.7	50.5
A 6785	50.2	49.6	59.5	46.4	56.6	40.4	50.5	50.3
YOUNG	51.1	45.0	58.3	41.5	55.9	39.8	48.1	49.8
C.V.		9.0	10.4	21.0	5.1	19.9		
LSD .05		6.9	10.0	14.3	5.0	12.6		

V. DISEASE REACTION AND OTHER INFORMATION:

Cyst Nematode

DPX 3681 is resistant to races 3 and susceptible to race 14 of soybean cyst nematode.

	Race 3									
	1993					1994				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
DPX 3681	7	0	0	0	0	1	3	3	0	0
Centennial	7	0	0	0	0	9	1	0	0	0
Hutcheson	0	0	0	0	7	0	2	2	4	0

Location:
Conducted by:

Jackson, TN
Dr. Lawrence Young
USDA, Nematologist

Scott, MS
Grover Shannon
Grady Robinson

	Race 14									
	1993					1994				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
DPX 3681	0	0	0	2	4	0	0	4	2	0
Centennial	0	0	0	0	5	0	0	0	5	1
Bedford	4	3	0	0	0	0	1	7	1	0

Location:
Conducted by:

Jackson, TN
Dr. Lawrence Young
USDA, Nematologist

Scott, MS
Grover Shannon
Grady Robinson

Root Knot Nematode 1 = No galling 5 = Very severe galling
 DPX 3681 is resistant to common root knot nematode and moderately resistant to peanut root knot nematode.

	Common Root Knot		Peanut Root Knot	
	<u>M. Incognita</u>		<u>M. arenaria</u>	
	<u>1993</u>	<u>1994</u>	<u>1993</u>	<u>1994</u>
DPX 3681	1.0	0.5	1.5	2.5
Resistant Ck.	1.0	1.0	1.0	1.5
Susceptible Ck.	3.5	3.5	3.0	4.0
Location:	Jay, FL		Jay, FL	
Conducted by:	Dr. Robert Kinloch Nematologist University of Florida		Dr. Robert Kinloch Nematologist University of Florida	

Stem Canker 1 = No symptoms 5 = Very severe symptoms
 DPX 3681 is very resistant to stem canker.

	<u>1993</u>	<u>1994</u>
DPX 3681	1.0	1.3
DP 3682	2.0	3.0
DP 726	1.0	3.0
H 6686	1.0	1.3
YOUNG	3.0	4.7
DP 3627	4.0	4.7

Location:	Scott, MS Grover Shannon	Morganza, LA Grover Shannon
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Frogeye Leaf Spot 1 = None 5 = Very Severe symptoms
 DPX 3681 is probably resistant to frogeye leaf spot based on limited information we have at this time.

Sudden Death Syndrome 1 = None 5 = Very severe symptoms
 DPX 3681 reaction to sudden death syndrome is unknown.

Soybean Mosaic Virus 1 = None 5 = Very severe symptoms
 DPX 3681 is resistant to soybean mosaic virus.

	<u>1994</u>
DPX 3681	1.5
DP 3682	3.0
H 6686	3.0
DP 726	4.0
YOUNG	2.0

Location:	Scott, MS
Conducted by:	Grover Shannon

